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INDIAN AGRICULTURAL STATISTICS RESEARCH INSTITUTE (ICAR), LIBRARY AVENUE, PUSA, NEW DELHI-110 012



From Director's Desk

This Newsletter highlights some of the salient research and training achievements made and other significant activities performed during the period under report.

A module for online generation of complete set of mutually orthogonal Latin squares of order s , s being a prime or prime power less than 1000, has been developed and uploaded on Design Resources Server. Analysis of data on Design Resources Server has been strengthened by adding SAS codes for performing analysis of data from experiments conducted using complete/incomplete block designs in different environments.

The Design Resources Server has been registered under google analytics. It has been browsed from 267 cities of 59 countries spread over 6 continents namely Asia, Africa, North America, South America, Europe and Australia.

A Training Programme on "Development of Contents for Online e-Learning Systems" was organised under aegis of Centre of Advanced Studies in Agricultural Statistics and Computer Applications.

A two days Hindi Karyashala for scientific/technical/administrative personnel of the Institute was also organised at the Institute.

Institute Research Committee (IRC) meeting was organised to discuss the progress of ongoing and new research projects.

The Institute also provided consultancy services to various research studies/projects in NARS.

The Institute participated in number of meetings/conferences/symposia/workshops etc. It is hoped that the contents of this document would be informative and useful for scientists in NARS. Any suggestions for improving the contents of the newsletter further, would be highly appreciated.


(VK Bhatia)

IN THIS ISSUE

- Research Achievements
- New Projects/Schemes
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निदेशक की कलम से...

प्रस्तुत समाचार पत्र में प्रतिवेदनाधीन अवधि के दौरान संस्थान की प्रमुख अनुसंधानिक एवं प्रशिक्षण उपलब्धियों के साथ-साथ विभिन्न महत्त्वपूर्ण गतिविधियों पर प्रकाश डाला गया है।

एस (s) क्रम, यहाँ एस (s) 1000 से कम की एक अभाज्य (prime) या अभाज्य पॉवर (prime power) है, के परस्पर लैटिन वर्ग के पूर्ण समुच्चय के ऑनलाइन जनरेशन का एक मॉड्यूल विकसित कर उसे डिज़ाइन रिसोर्सेज़ सर्वर पर अपलोड किया गया है। एस.ए.एस (SAS) कोड्स को शामिल कर डिज़ाइन रिसोर्सेज़ सर्वर पर आँकड़ों के विश्लेषण को और सुदृढ़ता प्रदान की गई है ताकि भिन्न-भिन्न पर्यावरणों में पूर्ण/अपूर्ण ब्लॉक डिज़ाइनों की सहायता से किए गए परीक्षणों से प्राप्त आँकड़ों का विश्लेषण किया जा सके।

डिज़ाइन रिसोर्सेज़ सर्वर को गूगल विश्लेषिक (Google Analytics) के अधीन पंजीकृत किया गया है। इसे 6 महाद्वीपों यानि एशिया, अफ्रीका, उत्तरी अमेरिका, दक्षिणी अमेरिका, यूरोप और आस्ट्रेलिया, के 59 देशों के 267 शहरों से ब्राऊज़ किया गया है।

कृषि सांख्यिकी एवं कम्प्यूटर अनुप्रयोग पर उच्च अध्ययन केन्द्र के तत्वावधान में ऑनलाइन ई-लर्निंग के लिए विषय-वस्तु के विकास पर एक प्रशिक्षण कार्यक्रम चलाया गया।

संस्थान में वैज्ञानिकों/तकनीकी/प्रशासनिक कर्मियों के लिए एक दो दिवसीय हिन्दी कार्यशाला की गई।

पहले से चल रही और नई अनुसंधान परियोजनाओं की प्रगति पर विचार करने के लिए संस्थान अनुसंधान कमेटी (आई.आर.सी.) की एक बैठक आयोजित की गई।

संस्थान द्वारा नार्स की विभिन्न अनुसंधान/अध्ययन/परियोजनाओं के लिए सलाहकारी सेवाएँ प्रदान की गईं।

संस्थान द्वारा अनेक बैठकों/सम्मेलनों/संगोष्ठियों/कार्यशालाओं इत्यादि में सहभागिता की गई। आशा है कि इस अंक की विषय-वस्तु नार्स (NARS) में कार्यरत वैज्ञानिकों के लिए सूचनाप्रद एवं उपयोगी सिद्ध होगी। इस समाचार पत्र की विषय-वस्तु में भावी सुधार लाने के लिए आपके सुझावों का स्वागत है।

Vijay Kumar

(विजय कुमार भाटिया)

RESEARCH ACHIEVEMENTS

- A module for online generation of complete set of mutually orthogonal Latin squares of order s , s being a prime or prime power less than 1000, has been developed and uploaded on Design Resources Server (www.iasri.res.in/design) as MOLS and OA under the link online generation of designs (<http://www.iasri.res.in/webhadamard/mols.htm>). Using this link one can also generate an Orthogonal Array with parameters $(s^{s+1}, s^2, s, 2)$ by choosing the output option as Orthogonal Arrays.
- Analysis of Data on Design Resources Server has been strengthened by adding the following material:
 - SAS and SPSS steps and codes for obtaining descriptive statistics, generating discrete frequency distribution, grouped frequency distribution, histogram, testing the normality of a given variable (overall groups or for each of the groups separately).
 - SAS codes for performing analysis of data from experiments conducted using complete/incomplete block designs in different environments. Using this code, one can analyze the data for each of the environments separately, test the homogeneity of error variances using Bartlett's χ^2 -test, perform combined analysis of data considering environment effects as fixed (useful for the situations of artificially created environments), considering environment effects as random (both through PROC GLM and PROC MIXED) and prepare site regression or GGE biplots.
 - SAS code for performing principal component analysis is also uploaded on the server.
 - SAS and SPSS steps for performing analysis of covariance from the data generated from experiments conducted using a block design.
- The server has been registered under google analytics on 26 May 2008. Based on the hits (26 May 2008 to 30 September 2008), there are 2030 page views and 1614 unique page views. It has been browsed from 267 cities of 59 countries spread over 6 continents namely Asia, Africa, North America, South America, Europe and Australia.

NEW PROJECTS/SCHEMES

- Three new projects entitled "Machine learning approach for data mining", "An e-Learning solution for agricultural education" and "Small area estimation for zero inflated data" have been approved by IRC and initiated during the period.

HONOURS AND AWARDS

- Dr. Rajender Parsad, National Fellow was elected as Member of the International Statistical Institute.
- Dr. VK Bhatia, Director was elected President/Chairman of International Indian Statistical Association-INDIA Joint Statistical Meeting (IISA-INDIA JSM) 2000 Trust.

HUMAN RESOURCE DEVELOPMENT

- A 21 days Training Programme on “Development of Contents for Online e-Learning Systems” was organised during 10-30 September 2008 under aegis of Centre of Advanced Studies in Agricultural Statistics and Computer Applications. Nineteen participants from ICAR Institutes and State Agricultural Universities attended the training programme. Some of the topics covered were Overview of e-Learning, Content Designing for e-Learning Systems, Content Designing with MS Powerpoint, Data Warehouse and its Applications in Agriculture, Overview of NISAGenet System, Introduction to Moodle: e-Learning System, Adobe Photoshop, Macromedia Flash, Audio and Video Capturing and Editing, Cyber Law for IT, Cyber Security: An Overview, PERMISNET and Installing Moodle on Linux and Digital Signatures Integration with Web Applications etc. Shri Sudeep Marwah was the Course Director for the training programme.



Prof. VK Bhatia, Director, IASRI distributed the certificates to the participants during the valedictory function of the training programme.

PANORAMA OF ACTIVITIES

- One meeting of Institute Joint Staff Council was held on 23 July 2008.
- Two Meetings of the Grievance Committee of the Institute were held on 26 July and 26 August 2008.
- Nehru Memorial Gold Medals for the year 2005-07 were awarded to Sh. Sandip Shil and Ms. Yogita Gharde, students of M.Sc. (C.A.) and M.Sc. (Ag. Stat.) respectively.
- One meeting of the Institute Research Committee (IRC) was held during 07-08 August 2008. In the meeting 3 new projects were approved and progress of 39 ongoing research projects were discussed.

- One meeting of the Women Cell of the Institute was held on 23 September 2008.

Annual Day Celebrations

- The Annual Day of the Institute was celebrated on 02 July 2008 in which Dr. Nawab Ali, Deputy Director General (Ag. Engg.), ICAR was the Chief Guest, Dr. AK Sikka, Technical Director on behalf of Dr. JS Samra, Chief Executive Officer, National Rainfed Area Authority, Ministry of Agriculture, Govt. of India, New Delhi delivered the Nehru Memorial Lecture entitled, “Challenges and Opportunities in the Rainfed Agriculture”.



हिन्दी कार्यशाला

- दिनांक 26 तथा 27 सितम्बर, 2008 को संस्थान के कर्मियों के लिए “हिन्दी वर्तनी एवं व्याकरण” पर एक द्वि-दिवसीय हिन्दी कार्यशाला आयोजित की गयी। कार्यशाला में भा.कृ.अ.प. के उप-निदेशक (राजभाषा), श्री लक्ष्मी कांत ने 26 सितम्बर, 2008 को तथा अलीगढ़ मुस्लिम विश्वविद्यालय, अलीगढ़ के हिन्दी विभाग के रीडर, डॉ. राजीव लोचन नाथ शुक्ला ने 27 सितम्बर, 2008 को व्याख्यान दिये। कार्यशाला का समापन संस्थान के निदेशक महोदय द्वारा किया गया तथा प्रतिभागियों को प्रमाण-पत्र वितरित किये गये।

हिन्दी पखवाड़ा

- संस्थान में 01 से 15 सितम्बर, 2008 के दौरान हिन्दी पखवाड़े का आयोजन किया गया। इस दौरान विभिन्न कार्यक्रम/प्रतियोगिताएँ आयोजित की गईं।
- दिनांक 05 सितम्बर, 2008 को शिक्षक दिवस का आयोजन किया गया। इस अवसर पर मुख्य अतिथि, प्रो. अलोक डे को सम्मानित किया गया।



- संस्थान में हिन्दी पखवाड़े के अन्तर्गत दिनांक 10 सितम्बर, 2008 को आयोजित हिन्दी पोस्टर प्रतियोगिता में निम्नलिखित पेपर पुरस्कृत किये गये।
 - “सृष्टि का बढ़ता तापमान” द्वारा मीना नन्दा एवं आदर्श कुमार मोघा (प्रथम पुरस्कार)
 - “सर्वेक्षण आँकड़ों के विश्लेषण हेतु सॉफ्टवेयर” द्वारा विजय कुमार महाजन, शशि भूषण लाल एवं अनु शर्मा (द्वितीय पुरस्कार)
 - “काले चने के उत्पादन एवं बाजार में विपणन हेतु लाई गई मात्रा का आकलन” द्वारा अशोक कुमार गुप्ता, हर विशन लाल बठला एवं विजय बिन्दल (तृतीय पुरस्कार)
- 15 सितम्बर, 2008 को हिन्दी दिवस के अवसर पर “डॉ. दरोगा सिंह स्मृति व्याख्यान” का आयोजन किया गया। यह वैज्ञानिक व्याख्यान खाद्य एवं कृषि संगठन (एफ.ए.ओ.) के पूर्व विशेषज्ञ, डॉ. कर्ण देव सिंह द्वारा “ग्रामीण दरिद्रता उन्मूलन के लिए वन और कृषि कभी मिल सकते हैं” विषय पर दिया गया।
- हिन्दी पखवाड़े के समापन समारोह के अवसर पर समारोह के मुख्य अतिथि, भारतीय कृषि अनुसंधान परिषद् के उप महानिदेशक (एन.आर.एम.), डॉ. अनिल कुमार सिंह द्वारा सफल प्रतियोगियों को पुरस्कृत किया गया। इसके अतिरिक्त, सरकारी काम-काज मूलरूप से हिन्दी में करने के लिए प्रोत्साहन योजना के अन्तर्गत संस्थान के दो कर्मियों को नकद पुरस्कार भी प्रदान किये गये।

राजभाषा सम्बन्धी निरीक्षण

- संस्थान में हिन्दी की प्रगति का जायजा लेने के लिए परिषद् के निदेशक (राजभाषा), श्री हरीश चन्द्र जोशी द्वारा 19 अगस्त, 2008 को संस्थान का राजभाषा सम्बन्धी निरीक्षण किया गया। उन्होंने संस्थान में हो रहे हिन्दी कार्यों की भूरि-भूरि प्रशंसा की।

PARTICIPATION OF INSTITUTE

Various Scientists and Technical Personnel of the Institute participated in:

- Three meetings of Advisory Committee as Advisor for “Third Census of Handlooms and Issue of Photo ID Card to Weavers” held on 05 June 2008, 22 July 2008 and 26 August 2008 at NCAER, New Delhi.
- First meeting of the Standing Committee for the Conference of Central and State Statistical Organisations (COCSSO) under the Chairmanship of Secretary (S&PI) at Sardar Patel Bhawan, New Delhi on 16 July 2008.
- Meeting on “Setting up a National Data Center and National Portal at National Rainfed Area Authority” on 22 July 2008 at NASC Complex, IARI, New Delhi.
- Meetings with Joint Director (Stat.) and Joint Director (M & E), Jaipur regarding manpower and budget for the study (SCAEM) has to be adopted in the entire state.
- Meeting under the Chairmanship of ADG (Engg.) at Krishi Anusandhan Bhawan regarding the All India project on Harvest and Post-Harvest Losses on 08 August 2008.
- Meeting at NE-SAC, Shillong for implementation of the methodology for estimation of paddy developed by the Institute in all other North Eastern States on 12 August 2008. Officers from NE-SAC Department of Agriculture and Directors of various Remote Sensing Centres were also present.
- Meeting with the Principal Secretary (Ag.) and Director (Ag. Stat. and Crop Insurance), UP, regarding “Pilot study on small area crop estimation approach for crop yield estimates at gram panchayat level” at Lucknow on 18 August 2008.
- Meeting with the Scientists of Central Institute of Aromatic and Medicinal Plants (CIAMP), Lucknow on 19 August 2008.
- Golden Jubilee celebrations of P.G. School of IARI on 22 August 2008 at IARI, New Delhi.
- Inaugural Function of Interactive Meet on conversation and use of farm animal and microbial genomic resources on 29 August 2008.
- Agriculture for Strategic Planning on 02 September 2008 at NCAER, New Delhi.
- Meeting on “Causes of variation in cotton area and production” under the Chairmanship of Commissioner of Textile at the Office of Textile Commissioner, Mumbai on 5 September 2008.
- Meeting of the Expenditure Finance Committee (EFC) to consider the memorandum on integrated sample survey for estimation of production of major livestock products during 11th Five Year Plan under the Chairmanship of Secretary (DADF) at Krishi Bhawan, New Delhi on 09 September 2008.
- Meeting under the Chairmanship of DDG (Engg) for discussing observations of the DG/DDG (Fisheries)/ADG (Engg) on ARDB 2008 on 11 September 2008.
- Screening Committee meeting to discuss the project proposals for updating rates and ratios at CSO, Sardar Patel Bhawan, New Delhi on 26 September 2008 under the Chairmanship of ADG (NAD).
- Adviser and Head from National Dairy Development Board (NDDDB), Anand, Gujarat visited IASRI on 30 September, 2008 to discuss about the modalities for collaborative research study on milk production estimates in one of the districts of Uttar Pradesh.

Conference/Workshop/Symposia/Training etc.

Various Scientists and Technical Personnel of the Institute participated in:

- National Symposium on "Livestock Genomics in Productivity Enhancement for Food Security" at NASC Complex, New Delhi during 03-04 July 2008.
- Workshop on "Improvement of Agricultural Statistics" during 08-09 July 2008 organised by Directorate of Economics and Statistics, Ministry of Agriculture, GOI, New Delhi.
- Foundation Day of the ICAR Society organized by ICAR at NASC Symposium Hall, NASC Complex, New Delhi on 16 July 2008. Smt. Pratibha Devi Singh Patil, the Hon'ble President of India, delivered a lecture.
- Workshop on "Forecasting Future Technological Needs for Rice in India", CRRI, Cuttack on 28-29 July 2008.
- Workshop on "Improvement of Agricultural Statistics" organized by Directorate of Economics and Statistics, Ministry of Agriculture, New Delhi in Vigyan Bhawan during 08-09 July 2008 and made presentation on "Causes of variation in official and trade estimates of cotton production".
- Workshop on "Scientific Writing" at NAAS Complex on 08 August 2008 organised by DIPA, ICAR.
- Workshop on "Exploring Future of Indian Agriculture" under NAIP project V-PAGE at NCAP, New Delhi during 1-2 September, 2008.
- Training on "MDP on Data Mining and GIS for Decision Support in Agriculture" during 25 August to 5 September 2008 at IIM, Lucknow.
- Annual Review Meeting of NAIP project "Visioning, Policy and Gender Analysis (V-PAGE)" at PIU-NAIP, KAB-II, New Delhi on 09 September 2008.
- National Seminar on "Land Resource Management and Livelihood Security" during 10-12 September 2008 at NBSSLUP, Nagpur.
- An Interactive Workshop on "Climate Change and Indian Livestock" at National Dairy Research Institute, Karnal during 20-21 September 2008.
- Regional Workshop on "Farm Mechanization for Small Holder Agriculture in SAARC Countries", organized by CIAE, Bhopal during 22-24 September 2008 and made a presentation relating to the long term mechanization strategy for different agro climatic zone project during a Technical Session.
- "2nd Green Revolution Summit and Expo" organized at Kolkata during 24-26 September 2008.
- National Seminar on NSS 62nd Round Survey Results, organized by NSSO, MOS & PI at SCOPE Complex, Lodhi Road, New Delhi during 25-26 September 2008.

- First Annual Conference of the Indian Society of Agri-business Management at Bangalore and presented papers during 25-27 September 2008.

COMPUTING FACILITIES

Wide Area Network

- Internet services have been provided to the users and the website of IASRI is being updated regularly. This site has been visited 20391 times since 01 April 2008 and 142621 times since 05 September 2003.

SEMINARS DELIVERED

- Seminars in different areas of Agricultural Statistics and Computer Application were delivered. These seminars include presentation of salient findings of the completed research projects by the scientists, thesis/ORW/course seminars of students of M.Sc. and Ph.D. (Agricultural Statistics) and M.Sc. (Computer Application). Guest seminar was delivered on 25 July 2008 by Sh. Ajesh Avirachan & Sh. Sumith Sukumaran, Software Engineers from Focuz Infotech on "Office Automation Software - Techfocuz R-Governance".

The details of Seminars Delivered

Category	Type of seminar	Number
Student	Course	11
	Thesis	04
Scientist		07
Guest		01
Total		23

- Seminar on "Experimental Design Resources Server" was delivered on 20 August 2008 at IISS, Bhopal to popularize the server among the scientists of NARS.

LECTURES DELIVERED

Various Scientists of the Institute delivered:

- Invited lecture on "Estimation of area, production and productivity in flower crops" to the participants of the training programme on "Advances in Floriculture Research and Development of Floricultural Crops" to the staff of Directorate of Horticulture and Processing, Uttar Pradesh, held at the Division of Floriculture and Landscaping, IARI, New Delhi.
- Lectures on "SPAR 2.0" at College of Agriculture, Birsa Agricultural University, Ranchi during 28-29 July 2008 to faculty of various disciplines of College of Agriculture.
- Lecture on "Remote Sensing and GIS" in a 3-week Refresher Course on Computer Applications at Center for Professional Development in Higher Education (CPDHE), University of Delhi on 20 September 2008.

PUBLICATIONS

Research Papers Published

- Farooqi, Samir, Islam, S, Chaturvedi, KK, Sharma, Kirti and Sikarwar, HS (2008). Identifying insects through Expert System on Wheat Crop Management – An information technology innovation. *Social Science Perspectives in Agriculture- A Thrust for Integration*, 520-523.
- Kaur, Rajinder, Kumar, Pramod, Sharma, VK and Tomar, RS (2007). Enhancing net return through intensification and diversification of rice varieties based crop sequences. *Asia Pacific J. Environ. Dev.*, **14(1)**, 65-79.
- Kumar, Bhupender, Rakshit, Sujay, Singh, RD, Gadag, RN, Nath, Ravindra, Paul, AK and Alam, Wasi (2008). Genetics diversity of early maturing Indian Maize (*Zea mays L.*) inbred lines revealed by SSR Markers. *J. Plant Biochem. Biotech.*, **17**, 364-368.
- Kumar, Suman, Hooda, BK, Jaggi, Seema and Singh, Rajendra (2008). Use of dummy variables for investigating structural stability in fertilizer-yield response models. *Ind. J. Agric. Sci.*, **78(2)**, 183-186.
- Mandal, BN, Parsad, Rajender and Gupta, VK (2008). Computer aided construction of balanced sampling plans excluding contiguous units. *J. Statist. Appl.*, **3(1)**, 59-85.
- Rai, Anil, Dubey, Vipin, Chaturvedi, KK and Malhotra, PK (2008). Design and development of data mart for animal resources. *Comput. Electron. Agric.* doi.10.1016/j.compag.2008.04.009.
- Ramasubramanian, V. (2008). Role of statistics and information technology in bioinformatics. *Current Biotica*, **2(1)**, 114-116.
- Upadhyaya, Shuchita, Arora, Alka and Jain Rajni (2008). Deriving cluster knowledge using rough set theory. *J. Theo. and Appl. Info. Tech.*, **4(8)**, 688-696.
- Lal, Krishan, Parsad, Rajender and Gupta, VK (2007). Trend-free nested balanced incomplete block designs and designs for diallel cross experiments. *Cal. Statist. Assoc. Bull.*, **59 (237-238)**, 203-221.

Research Papers Presented

- Behera, TK, Staub, JE, Behera, S, Rao, AR and Mason, S (2008). One cycle of phenotypic selection combined with marker assisted selection for improving yield and quality in cucumber. *Proceedings of the IX EUCARPIA meeting on genetics and breeding of Cucurbitaceae*, INRA, Avignon (France), 115-121.
- Bhar, LM, Parsad, Rajender and Gupta, VK (2008). Outliers in designed experiments. *Workshop Series 3*, IASRI, New Delhi.
- Sud, UC, Bathla, HVL, Chandra, H and Singh, J (2008). Small area estimation-Some application to National Sample Survey Data. National Seminar on NSS 62nd



A View of International Training Programme at ICARDA

Saleable Technologies

- Statistical Package for Factorial Experiments (SPFE 1.0)
- Statistical Package for Agricultural Research (SPAR 2.0)
- Statistical Package for Augmented Designs (SPAD)
- Statistical Package for Block Designs (SPBD 1.0)
- Statistical Package for Animal Breeding (SPAB)



A View of Annual day Function of the Institute

Round Survey Results, organized by NSSO (MOS & PI) at SCOPE Complex, New Delhi.

CONSULTANCY

- Dr. Rajender Parsad, National Fellow during his visit to ICARDA, conducted an International Training Programme on "Agricultural Information Management, Experimental Design and Data Analysis" during 29 June-17 July 2008. 16 participants from Afghanistan, Syria and ICARDA attended the training programme. Prepared the online learning material on the basic concepts of Statistics and Design of Experiments and made available to the participants through CG Online learning resources (<http://learning.cgiar.org/moodle>) for the first time at ICARDA. Besides this, provided, one day training on Fundamentals of Design of Experiments and Overview of GENSTAT to 07 participants of Lentil Breeding Programme from India, Bangladesh and Ethiopia and a half day training on GENSTAT to a visitor from Pakistan of Wheat and Barley Breeding Programme.
- Dr. Vedna Kumari, Associate Professor (Plant Breeding), Department of Plant Breeding and Genetics, SCKHPKV, Palampur, Himachal Pradesh was advised on the statistical designing of the experiment for evaluation of 48 rice varieties. An α -design with parameters $v = 48$, $b = 18$, $r = 3$, $k = 8$, $AE = 0.9603$, $DE = 0.9813$, $\alpha(0,1,2)$ was recommended. Here, v denotes the number of varieties, b number of blocks, r replication number, k is block size and $\alpha(\#, \#, \#)$ represents different concurrences of the varieties.
- Dr. Ganga Rao, NVPR, Legume Breeder (Chickpea & Pigeonpea), ICRISAT-Nairobi, Kenya was advised on the layout of Augmented Randomized Block design for evaluation of 115 genotypes of chickpea for drought and other yield related traits to be planted along with 6 checks. Randomized

layout of the augmented randomized complete block design in 9 blocks, 7 blocks of size 19 and two blocks of size 18 was provided.

- Dr. Anil Rai reviewed a proposal of ECIL for "Setting up a National Data Center and National Portal at National Rainfed Area Authority".
- Technical guidance was provided to the officers of National Dairy Development Board (NDDB), Anand, Gujarat.
- Dr. NL Joshi, Principal Scientist, CAZRI, has been advised to use cluster analysis for the grain yield data of pearl millet.
- Dr. Anil Rai Initiated consultancy on "Techniques for survey data analysis and capacity building" to NCAER, New Delhi.

PERSONNEL

Appointment

Prof. Vijay Kumar Bhatia, Principal Scientist joined as Director, IASRI w.e.f. 13.08.2008 (forenoon).

Transfer

Dr. SD Sharma, Director IASRI relieved to join as ADG (HRD) at KAB-II w.e.f. 12.08.2008(after noon).

Congratulations on your Promotion

- Dr. SMG Saran, Scientist S-1, w.e.f. 01-07-1983
- Sh. SPS Hans, T-6, w.e.f. 31-12-2005
- Sh. Manoj Kumar, T-5, w.e.f. 15-01-2007
- Dr. (Smt.) P Visakhi, T-7-8, w.e.f. 26-04-2007

Wish you Happy Retired Life

- Sh. Kuldip Singh, Technical Officer (T-7-8), w.e.f. 31-07-2008
- Sh. Satish Kumar, AAO, w.e.f. 31-07-2008
- Sh. Prahlad Singh, S.S. Gr. IV, w.e.f. 31-07-2008
- Sh. Mahender Singh Kaushik, Scientist (S.G.), w.e.f. 30-09-2008

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